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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/070,363	03/05/2002	Mikael Berlin	027650-969	3136

21839 7590 11/19/2003

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POST OFFICE BOX 1404
ALEXANDRIA, VA 22313-1404

EXAMINER	
MUSSER, BARBARA J	

ART UNIT	PAPER NUMBER
1733	

DATE MAILED: 11/19/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

CL08

Office Action Summary	Application No.	Applicant(s)	
	10/070,363	BERLIN ET AL.	
	Examiner	Art Unit	
	Barbara J. Musser	1733	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-26* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-26* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

13)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

a) ☐ The translation of the foreign language provisional application has been received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Election/Restrictions

As applicant has amended the claims such that the inventions contain the same special technical feature and since this is a 371 application, the restriction has been withdrawn.

Claim Rejections - 35 USC § 112

1. Claims 3, 6-8, 11-15, 20, and 22-24 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 3, it is unclear if the barrier polymer and laminar material are in addition to or the same as the barrier polymer and laminar layer of claim 1.

Claim 6 recites the limitation "the liquid gas barrier composition" in line 2. There is insufficient antecedent basis for this limitation in the claim. It is suggested this is intended to be the liquid barrier composition of claim 1.

Regarding claim 7, it is unclear if the polymer with the hydroxyl groups is intended to be the polymer of claim 1 or an additional material. A reading of the specification indicates they appear to be the same material.

Regarding claims 8 and 11, applicant appears to be trying to use a Markush group. It is suggested these be re-written in proper Markush format, either removing "selected from among" or changing "or" to –and--.

Regarding claims 12 and 13, it is unclear if applicant is intending the barrier composition to "consist essentially of" the materials listed and to what extent the materials must make up the barrier composition.

Regarding claims 14 and 15, it is unclear what is meant by a web surface temperature.

Regarding claims 20 and 22-24, it is unclear what is meant by "a said barrier layer" as it seems to suggest the barrier layer is both new and old.

Claim 24 recites the limitation "the layer of plastics" in lines 1-2. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1-9, 13, 14, 15, 25, and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Berlin et al.(WO 98/09812) in view of Kotani et al.(EP 0590263A2).

Berlin et al. discloses forming a laminated packaging material by coating an aqueous polymer dispersion on a carrier layer, drying it to form a barrier layer, and bonding the carrier and barrier layer to a paper core.(Abstract; Pg. 6, ll. 34-Pg. 7, ll. 3; Col. 9, ll. 1-8) The polymer can be polyvinyl alcohol.(Pg. 6, ll. 12) The reference does not disclose the barrier layer having an inorganic laminar material mixed therein. Kotani et al. discloses a gas barrier composition made of a polymer and an inorganic laminar materials.(Abstract) Gas barrier such as polyvinyl alcohol are still oxygen permeable and it is desired to reduce this

permeability by adding inorganic laminar materials.(.(Pg. 2, ll. 25-28) It would have been obvious to one of ordinary skill in the art at the time the invention was made to add the inorganic laminar material of Kotani et al. to the gas barrier composition of Berlin et al. since this would reduce the oxygen permeability of the layer even more.(Pg. 2, ll. 25-28)

Regarding claim 2, the inorganic laminar material is swollen in resin which applicant discloses is a method of exfoiliation.(Pg. 2, ll. 53-55)

Regarding claim 3, the barrier layer is formed by coating the carrier.(Pg. 9, ll. 1-8)

Regarding claims 4 and 5, the composition can be 5% inorganic laminar material and 95% polymer.(Pg. 4, ll. 51-52)

Regarding claim 6, the barrier layer is applied at a quantity of 1-10 g/m^2.(Pg. 9, ll. 34)

Regarding claims 7 and 8, the barrier layer can contain polyvinyl alcohol.(Pg. 9, ll. 32)

Regarding claim 9, Berlin et al. is silent as to the temperature to which the barrier composition is heated, but Kotani et al. discloses such layers containing inorganic laminar materials can be heated to 110-220 C to remove the solvent.(Pg. 5, ll. 4-5)

Regarding claim 13, Kotani et al. shows the barrier layer can be mainly the inorganic laminar material and the polymer and Berlin et al. discloses the polymer can be starch.(Pg. 6, ll. 12)

Regarding claim 14, the polyvinyl alcohol can be heated to 110-220 C.(Kotani et al., Pg. 5, ll. 4-5) Applicant's specification indicates polyvinyl alcohol is a material that cures.

Regarding claim 15, while the references do not suggest specific curing temperatures, Kotani et al. discloses the composition can be heated to 110-220C after removal of the solvent, indicating a two step drying process.(Pg. 5, ll. 4-6) One in the art would appreciate that the specific temperatures used would depend on the materials used to form the barrier layer. Absent unexpected results, the temperatures claimed are considered obvious.

4. Claims 10-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Berlin et al. and Kotani et al. as applied to claim 1 above, and further in view of Berlin et al.(WO 97/22536)

Berlin et al. does not disclose forming the barrier layer from a mixture of ethylene acrylic acid and polyvinyl alcohol though it does disclose the barrier layer containing polyvinyl alcohol and that the barrier layer can be mixed with something to increase its adhesiveness.(Pg. 8, ll. 18-20, 31-35) Berlin et al. discloses mixing ethylene acrylic acid with polyvinyl alcohol to create a gas barrier that retains superior gas barrier properties even when in a damp environment.(Pg. 5, ll. 10-1; Pg. 7, ll. 1-2) It would have been obvious to one of ordinary skill in the art at the time the invention was made to mix the polyvinyl alcohol barrier layer of Berlin et al. and Kotani et al. with ethylene acrylic acid since Berlin et al. discloses that mixing a polymer such as ethylene acrylic acid

with polyvinyl alcohol creates a gas barrier that retains superior gas barrier properties even when in a damp environment.(Pg. 5, ll. 10-1; Pg. 7, ll. 1-2)

5. Claims 16-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Berlin et al and Kotani et al. as applied to claim 1 above, and further in view of Farrell et al.(U.S. Patent 5,506,011).

While Berlin et al. discloses the carrier layer is polylactide, the material is clearly exemplary, and only a material which acts as a liquid barrier is required. Farrell et al. discloses a packaging material having both a paper core and a paper layer which can be joined using PVA.(Figure 4; Col. 2, ll. 22-35) It would have been obvious to one of ordinary skill in the art at the time the invention was made to replace the polylactide layer of Berlin et al. and Kotani et al. with a paper layer since it is a well-known alternative to a plastic layer in the package making arts.(Figures 1-4)

Regarding claim 17, since the references are intended to make the same types of products as applicant, one in the art would appreciate that the paper used would have the same weight range as applicant.

Regarding claim 18, since paper is not a moisture barrier and the packaging laminates are intended to protect material from moisture as well as oxygen, It would have been obvious to one of ordinary skill in the art at the time the invention was made to use a plastic coated paper as the carrier since this would prevent moisture from moving through the paper layer and contacting the PVA layer.

6. Claims 19-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Berlin et al. and Kotani et al. as applied to claim 1 above and further in view of Kobinata et al.(U.S. Patent 5,849125)

Berlin et al. discloses laminating the paper core to the carrier layer via an adhesive but does not disclose extruding the adhesive between the core and the carrier. Kobinata et al. discloses a method of making a laminated packaging material wherein an adhesive layer is extruded to bond the gas barrier to the paper core.(Col. 4, ll. 52-67) It would have been obvious to one of ordinary skill in the art at the time the invention was made to extrude the adhesive layer to bond the paper core and barrier layer of Berlin et al. and Kotani et al. since Berlin et al. is silent as to the method of bonding and since Kobinata et al. shows that extruding an adhesive to bond together the same type materials as in Berlin et al., namely a paper core and a barrier layer.

Regarding claim 20, while Berlin et al. shows bonding the barrier layer to the core, the specification does not disclose that the barrier layer must face the core. Rather it appears that having the barrier layer face the core is only exemplary. One in the art would appreciate that either the barrier layer or the carrier could face the core. Only the expected results would be achieved.

Regarding claims 21 and 23, Berlin et al. and Kotani et al. do not disclose applying additional thermoplastic layers to both the paper core and the carrier. Kobinata et al. discloses applying thermoplastic layers to the outer surfaces of both the paper core and the barrier layer.(Figures 2 and 3) It would have been obvious to one of ordinary skill in the art at the time the invention was made to

apply thermoplastic layers to the outer surfaces of both the paper core and the barrier layer to protect them as shown for example by Kobinata et al.

Regarding claim 22, Berlin et al. discloses applying the adhesive between the barrier layer and the paper core.(Figure 2)

Regarding claim 23, while the references do not disclose applying the barrier layer on both sides of the carrier, one in the art would appreciate that it could be to in increase the gas barrier properties and would do so for this reason.

Regarding claim 21, as the adhesive layer between the paper and core of Berlin et al. and Kobinata et al. is the same as applicant's, it would have the capabilities, namely functioning as a light barrier.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Barbara J. Musser** whose telephone number is **(703)-305-1352** until December 20 when it changes to (571) 272-1222. The examiner can normally be reached on Monday-Thursday; alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on 703-308-3853. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9310.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

BJM

JEFF H. AFTERGUT
PRIMARY EXAMINER
GROUP 1300